

Finally, before considering the merits of the Notice's two strategies for achieving dominance, it is worth noting their mutual inconsistency. The predation by cost misallocation strategy implies that prices will be lower on entry in long-distance markets (but later will be raised to above-competitive levels after rivals are eliminated). But the current large market shares of established interexchange carriers, as well as their deep financial pockets, make it difficult for such entry policy to result in large increases in shares for entrants without an extended period of below-cost pricing. The period of time for which a potential predator, such as GTE Long Distance (an affiliate of the GTE Telephone Operating Companies), would have to charge below-cost prices could be quite long. The leveraging argument implies that prices will rise in long-distance service markets, and the increase could be of an indefinite period if the underlying cause, i.e., discrimination, remains unchecked. Thus, prices are predicted from one theory or the other either to fall or rise, with either change constituting evidence of efforts by independent local exchange carriers to achieve market dominance. But prices cannot both fall and rise simultaneously following entry by independent local exchange carriers, so the two arguments posited in the Notice cannot both be correct. Indeed, my analysis as presented in the next two sections shows that neither is correct.

A. PREDATION BY COST MISALLOCATION

The Notice's claim that local exchange carriers could eliminate current interexchange carriers through predatory prices supported by cost misallocations does not withstand analysis. The theory breaks down first on the realism of its assumption about regulation. Even the myopic regulator that such a theory assumes to exist must be expected to see through such an artifice as the assumed cross subsidization. In fact, contrary to the assumed regulatory ineptitude, since the divestiture of AT&T state regulators have implemented sophisticated cost allocation procedures to separate out the

costs of activities that local exchange companies have been allowed to undertake that are similar to entry into long distance.¹⁰ These systems could detect cross-subsidy and below-cost pricing; that they have not is more proof of its non-existence than of regulatory ineptitude.¹¹

The replacement of rate-of-return by price cap regulation has eliminated much of the before-the-fact plausibility of the hypothetical argument that the operating company would have an incentive to “pass through” to local exchange the losses incurred from predatory price reductions in long distance. The reason is straightforward: caps on regulated local service prices in general are not set based on cost of service, so that any surreptitious pass-through or increase in attributed costs to local exchange is irrelevant to price setting. In practice, changes in caps by agency realignment reviews have been related to specific service costs; but as experts on predation have observed, “the spread of price-cap regulation means that if there ever was a possibility of financing losses incurred in predatory pricing in the interLATA market by raising local rates, it is rapidly disappearing.”¹² Indeed, the Commission has agreed with this position, stating that price caps “substantially curtail the economic incentive to engage in cross-subsidization.”¹³

¹⁰ In addition, for what it is worth, independent local exchange carriers are classified as dominant in the provision of local services. As a consequence, their tariffs, including access charges, are subject to Section 204 of the *Telecommunications Act of 1996* and Part 69 of the Commission’s rules.

¹¹ The accounting books of the GTE operating companies are reviewed annually by independent auditors and subsequently by the Commission’s auditors.

¹² Gates, S., Milgrom, P., and Roberts, J. (1995), *Deterring Predation in Telecommunications: Are Line-of-Business Restraints Needed?*, MANAGERIAL AND DECISION ECONOMICS, vol. 16, p. 427, at 435.

¹³ *Policy and Rules Concerning Rates for Dominant Carriers*, Report and Order and Second Further Notice of Proposed Rulemaking, CC Docket No. 87-313, 4 FCC Rcd 2873, 2924 (1989).

Although not all states have adopted price-cap regulation to date, there is a consistent trend in that direction,¹⁴ to an extent sufficient to render the general argument that there is a regulatory incentive for predation in long-distance incorrect under current conditions.

In addition, the existence of numerous and substantial independent local exchange carriers enables regulators to “benchmark” the costs of any given local exchange service in one company for purposes of detecting such cost misallocation in a single service territory.¹⁵ Moreover, the interexchange carriers themselves would be able to compare one local exchange company’s costs of providing local telephone service with the costs for the same services in other regions. The interexchange carriers could therefore watch for aberrant cost levels in local service that would be consistent with attempts by a single local carrier on long-distance entry to try out a new predation with subsidization policy.

The actual experience to date of local exchange companies when entering markets outside local exchange does not support the conclusion that predation has been attempted. Econometric analysis by Richard Higgins supports the conclusion that anticompetitive cross-subsidization did not occur after Bell operating companies were allowed to provide limited “corridor” interLATA service around New York City.¹⁶ GTE Long Distance’s supply of interexchange service in these markets did not result in cross-subsidization or

¹⁴ See Sappington, D. and Weisman, D. (1996), *DESIGNING INCENTIVE REGULATION FOR THE TELECOMMUNICATIONS INDUSTRY* (MIT Press & AEI Press).

¹⁵ Brandon, P. and Schmalensee, R. (1995), *The Benefits of Releasing the Bell Companies from the Interexchange Restrictions*, *MANAGERIAL AND DECISION ECONOMICS*, vol. 16, p. 349, at 357.

¹⁶ Affidavit of Richard S. Higgins, Motion of Bell Atlantic Corporation, BellSouth Corporation, NYNEX Corporation, and Southwestern Bell Corporation to Vacate the Decree, *United States v. Western Elec. Co.*, No. 82-0192 (filed D.D.C. July 6, 1994).

exclusionary conduct even though the company was simultaneously a local exchange carrier.¹⁷

These are all good operational and cost-control reasons why such a strategy would be detected and then prevented under regulation. But more basic, a campaign of predatory pricing in the interLATA market could not produce a monopoly.¹⁸ Even if a local exchange company could bankrupt the major interexchange carriers, their fiber optic capacity would remain intact for another firm to purchase and use as the vehicle for re-entry when prices went back up. Given the useful life of optical fiber, network capacity “darkened” by hypothetical predation would be put back into markets by other new entrants if and when the predator were to attempt to recoup profits lost in predation by raising prices.¹⁹

B. LEVERAGING

The Notice’s second market dominance argument is that local exchange carriers could leverage their bottleneck access facilities to discriminate against interexchange rivals, and, given weakened rivals, they then could charge above-competitive prices for

¹⁷ See, e.g., Kellogg, M., Thorne, J., and Huber, P. (1992), *FEDERAL TELECOMMUNICATIONS LAW*, Little, Brown & Company, at 420-421.

¹⁸ Indeed, a recent study could find no evidence that even firms with allegedly irrational managers have carried out successful predatory pricing campaigns. Lott, J. and Opier, T. (1996), *Testing Whether Predatory Commitments are Credible*, *JOURNAL OF BUSINESS*, vol. 69, p. 339.

¹⁹ See, e.g., Elzinga, K. and Mills, D. (1989), *Testing for Predation: Is Recoupment Possible*, *ANTITRUST BULLETIN*, vol. 34, p. 869; Gates, S., Milgrom, P., and Roberts, J. (1995), *Deterring Predation in Telecommunications: Are Line-of-Business Restraints Needed?*, *MANAGERIAL AND DECISION ECONOMICS*, vol. 16, p. 427, at 435; Elzinga, K. and Mills, D. (1994), *Trumping the Areeda-Turner Test: The Recoupment Standard in Brooke Group*, *ANTITRUST LAW JOURNAL*, vol. 62, p. 559.

interexchange services.²⁰ But leveraging in economic theory is not self evident in intent or results.²¹ Advocates of the claim that local exchange companies would be able to leverage “bottleneck” local loops and switches into positions of dominance in the provision of long-distance services must offer evidence that such an objective realistically can be obtained. More specifically, the merits of this argument depend on an empirical determination of the relative costs and benefits of imposing regulation to forestall this behavior.

Robert Bork dispelled much of the theory of bottleneck monopoly by showing that in most instances two monopolies were not better than one: A firm could get all its profit returns from the first monopoly without adding a “second” monopoly by extending the first.²² The Bork argument is that an attempt to leverage from a bottleneck in local exchange to a second monopoly in long-distance service would not increase profits because the two services are used in fixed proportions – a minute of (bottleneck) local access is necessary to originate a minute of interLATA transport and exchange service.

²⁰ Notice at ¶ 139.

²¹ See, e.g., Posner, R. (1976), *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE*, Chicago, IL: University of Chicago Press; Schmalensee, R. (1982), *Commodity Bundling by Single-Product Monopolies*, JOURNAL OF LAW AND ECONOMICS, vol. 25, pp. 67-71; Director, A. and Levi, E. (1956), *Law and the Future: Trade Regulation*, NORTHWESTERN UNIVERSITY LAW REVIEW, vol. 51, pp. 281-296; Spengler, J. (1959), *Vertical Integration and Antitrust Policy*, JOURNAL OF POLITICAL ECONOMY, vol. 68, pp. 561-570; Greenhut, M. and Ohta, H. (1976), *Related Market Conditions and Interindustrial Mergers*, AMERICAN ECONOMIC REVIEW, vol. 66, pp. 267-277.

²² See, e.g., Bork, R. (1978), *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF*, New York, NY: Basic Books, at 372-73; Bowman, W. (1957), *Tying Arrangements and the Leverage Problem*, YALE LAW REVIEW, vol. 67, pp. 19-36; Burstein, M. (1960), *The Economics of Tie-In Sales*, REVIEW OF ECONOMICS AND STATISTICS, vol. 42, pp. 68-73; Mathewson, F. and Winter, R. (1992), *Tied Sales and Leverage*, Institute for Policy Analysis, University of Toronto, working paper; Vickers, J. (1994), *Competition and Regulation in Vertically Related Markets*, REVIEW OF ECONOMIC STUDIES, vol. 62, pp. 1-17; McGee, J. and Bassett, L. (1976), *Vertical Integration Revisted*, JOURNAL OF LAW AND ECONOMICS, vol. 19, p. 28; Spulber, D. (1989), *REGULATION AND MARKETS*, Cambridge, MA: MIT Press, pp. 482-494.

To extend the local operating company's monopoly in access to a second monopoly in long distance would require that the price that consumers would be willing to pay for access would have to be reduced by the price increase (after the "extension") in long-distance service. The gain in price in the second monopoly is the loss in price from the first monopoly; conceptually, then the "second" monopoly does not exist.

Even so, a "special case" argument has been made that, because the price of the bottleneck facility is regulated, the local exchange company cannot extract its full monopoly profits from that price and thus has an incentive to leverage to seek its monopoly price elsewhere, in some market beyond regulation where prices can be increased fully. The monopolist in market *A* extends its control to *B*, and adds to profits from the unregulated price in *B* more than it lost in the regulated price in *A*. The regulated company is hypothetically able to over-charge in competitive long-distance markets because the locally regulated bottleneck services are underpriced and folded into a long-distance "package" that is offered in a discriminatory process that at least partially excludes other carriers.

That scenario is not credible for several reasons. If local exchange carriers engage in discrimination that is sufficiently apparent to interexchange customers to affect purchasing decisions (biasing them in favor of the local exchange company), then it would have to be apparent to rivals and regulators.²³ And if a public utilities commission knows that anti-competitive discrimination has occurred, it has existing authority to prevent it from continuing. To require dominant firm status and structural separation as means to prevent alleged, potential discriminatory access perpetuated by incumbent local exchange carriers is backwards policy. That policy imposes continuous costs of regulation on the long-distance entrant to impede that entry. Establishing regulatory costs on all local

²³ The discrimination also would be apparent to rival interexchange carriers through observation and monitoring of monthly trunk reports and annual ARMIS service quality reports.

exchange carrier entrants only to frustrate the potential for discrimination constitutes regulatory policy at its worst.

These regulatory costs could be large where telecommunications firms operate with economies of integration. Economies of integration are achieved when it is less costly for a single firm to provide both local and long-distance services than it is for the services to be provided by independent firms. A combined firm would be able to share, for example, common overhead, billing, and customer service functions to produce lower average costs.²⁴ Such economies of integration exist in telecommunications; that is apparent from the fact that large long-distance carriers seek to become integrated interexchange and local exchange service providers as single business entities.²⁵

Moreover, the fulcrum on which a local exchange company's lever must operate – the monopoly in local access and transport – is no longer available in many if not most local exchange markets. Local entry by competitive access providers in service markets that make the largest contributions to margin, such as large-volume business local exchange and intraLATA toll, has taken away the local carriers' ability to set terms and conditions for access to the lucrative business and other large-volume subscribers. Local entry has been much slower in services that provide local carriers with negative contributions to margin, such as rural residential local exchange. But even local carrier services in such markets are potentially vulnerable in the near future to competition from

²⁴ The Notice suggests that independent local exchange carriers could be subjected to separation requirements even if they were found non-dominant. (Notice at ¶ 158.) This implicitly assumes there are no costs to doing so, but this defies logic since such a policy would generate costs in the form of lost economies of scope with no offsetting benefits.

²⁵ In some cases, interexchange carriers may enter into contracts with access providers to reach business and residential customers. But the interexchange carriers, and not their access providers, likely will be the brand names seen by subscribers as offering the bundle of local and long-distance service. Thus, in such a contractual arrangement, billing and customer services will be provided by one firm, consistent with the claim that economies of integration exist.

wireless technologies.²⁶ In the present, a monopoly over low profit margin services that regulators require the operating company to provide is no fulcrum for leveraging market power.

In addition to these manifold infirmities in the argument, the presumption is questionable that local carriers enter long distance with the same strategic objectives as any other entrant. As Sibley and Weisman have shown, local exchange carriers do not have the incentive in current circumstances to leverage against interexchange carriers.²⁷ Engaging in tactics raising interexchange rivals' costs has the effect of raising prices to final consumers, which reduces their demands for service. The resulting reduction in demands for access by the interexchange carriers reduces that carrier's profits by more than the increase resulting from its own increased sales of interexchange services. Further to the contrary, Sibley and Weisman show that local exchange carriers could have incentives to behave procompetitively – to act in ways that reduce the costs of their interLATA competitors as well as their own – in order to increase access usage of their local systems. Therefore, leveraging is not even conceivably the profitable strategy for local exchange carriers.

Then in what sense does the existence of bottleneck conditions create a presumptive case for regulating the entrant local carrier as a dominant firm? This analysis demonstrates the answer is that no such presumptive case can be made. No credible theory or empirical evidence exists to support the hypothesis that the GTE operating companies could profitably carry out a predatory campaign against AT&T, MCI, and

²⁶ See, e.g., Spulber, D. (1995), *Deregulating Telecommunications*, YALE JOURNAL ON REGULATION, vol. 12, p. 25.

²⁷ Sibley, D. and Weisman, D. (1995), *Competitive Incentives of Vertically Integrated Local Exchange Carriers*, University of Texas, Austin, working paper; see also Weisman, D. (1995), *Regulation and the Vertically Integrated Firm: The Case of RBOC Entry Into InterLATA Long Distance*, JOURNAL OF REGULATORY ECONOMICS, vol. 80, pp. 249-266.

Sprint. The fact that GTE operating companies own local exchange facilities does not constitute a showing of their ability to initiate a large-scale predatory campaign to eliminate major facilities-based interexchange carriers and simultaneously prevent other firms from re-entering with the same fiber-optic networks. The Notice's proposed mechanism by which an independent local exchange carrier is supposed to accomplish this goal (i.e., cost misallocation) does not suffice. Even assuming, *arguendo*, that a GTE operating company could misallocate some costs from long-distance to local service, that hardly implies it could eliminate the three major facilities-based carriers, having combined revenues from long-distance operations of more than \$58 billion annually,²⁸ and then prevent other firms from acquiring the existing capital stock and entering after GTE Long Distance raises prices to recoup its losses.

The second mechanism in the Notice by which an independent local exchange company is supposed to be able to establish a position of market dominance (i.e., leveraging) also does not suffice as either a theoretical or empirical matter. How can GTE operating companies reduce the quality of rivals' interexchange services in a way simultaneously observable to consumers but not to rivals and regulators? The Notice offers no guidance in answering this question, which is not surprising since there is no answer. There does not exist any support, either in principle or in fact, for the claim that discriminatory provision of services to interexchange carriers could by some unexplained mechanism enable GTE Long Distance to capture more than 55 percent of the long-distance market (as defined by the Commission), increase prices, and prevent rivals from forcing prices down in competitive responses. In sum, the two concerns expressed in the Notice regarding the possibility that an independent local exchange company could become dominant in long distance do not make the case for enforcing *ex ante* price-cap

²⁸ FCC, LONG DISTANCE MARKET SHARES: FIRST QUARTER 1996, Table Five.

and structural separation regulations on companies not currently dominant and exhibiting no signs of becoming dominant.

II. WHETHER INDEPENDENT LOCAL EXCHANGE COMPANIES SHOULD BE CLASSIFIED AS DOMINANT CARRIERS

Over the last fifteen years, the Commission by notice and decision-making has set standards for “dominance” to describe a carrier’s behavior in well-defined markets. These precedential standards can be applied to determine whether an independent local carrier, and particularly the GTE operating companies, should be classified as dominant. In its FOURTH REPORT & ORDER on dominance proceedings, the Commission defined market power as “the ability to raise prices by restricting output” and “the ability to raise and maintain price above the competitive level without driving away so many customers as to make the increase unprofitable.”²⁹ These definitional steps focused on the behavior of the largest supplier in raising and maintaining high prices.

By classifying a carrier as dominant, the Commission imposes a set of constraints on that firm’s operations. These could limit price-setting power in practice. The largest local exchange carriers’ prices are made subject to price-cap regulation, which directly puts limits on prices for categories or “baskets” of services. These limits in practice have taken current cost-of-service prices and adjusted them so that the category weighted average cannot change by more than certain indicators based on changes in general price levels, industry productivity, and access charges. So-designated dominant carriers have had to file proposed changes with advance notice and obtain specific Commission approval. As such, the Commission concept of a dominant carrier has been consistent with that in economic analysis – given its demands as equal to market demands net of supplies of other firms, the dominant firm sets its own prices to reflect changes in demands

²⁹ COMPETITIVE CARRIER, FOURTH REPORT & ORDER, 95 FCC at 558, ¶¶ 7-8 (1978).

(or general price levels) and in productivity. The only difference would appear to be that the regulated dominant firm would not be able to mark up, in increased profit margin, increases in demands and decreases in costs associated with productivity.³⁰

A. THE COMMISSION'S 1995 RECLASSIFICATION OF AT&T AS A NON-DOMINANT CARRIER

In October 1995, the Commission issued an order reclassifying AT&T as a non-dominant carrier.³¹ In its order, the Commission set forth *specific criteria* to be used in the determination of whether AT&T was a dominant carrier, that in effect set limits beyond which other carriers cannot go if they are to be found not dominant.

The Commission began by defining the relevant product market as “all interstate, domestic, interexchange services,”³² and concluded there was “a single national geographic market (including Alaska, Hawaii, U.S. Virgin Islands, and other U.S. offshore points).”³³ In this defined market, the Commission found that AT&T generally lacked market power even if it exercised power in some services, as long as it did not in the full set of service offerings. The Commission concluded that the appropriate question was whether AT&T exercised market power in the “overall interstate, domestic, interexchange

³⁰ Carlton, D. and Perloff, J. (1994), MODERN INDUSTRIAL ORGANIZATION, New York, NY: Harper Collins, at 157-169; Stigler, G. (1965), *The Dominant Firm and the Inverted Umbrella*, JOURNAL OF LAW AND ECONOMICS, vol. 8, reprinted in Stigler, G. (1968), THE ORGANIZATION OF INDUSTRY, Homewood, IL: Richard D. Irwin, pp. 108-122.

³¹ AT&T Non-Dominance Order.

³² Notice at ¶ 21. The Notice tentatively concludes that this should be adopted as the relevant product market for evaluating the dominance of independent local exchange carriers. Notice at ¶ 119.

³³ AT&T Non-Dominance Order at ¶ 22-23.

market.”³⁴ In order to assess whether AT&T had “overall” exercised market power, the Commission focused on four criteria: (1) AT&T’s market share; (2) market supply elasticity; (3) the elasticity of demand facing AT&T; and (4) AT&T’s cost structure, size, and resources. Thus, the first matter to consider is the proper definition of the relevant market.

B. MARKET DEFINITION AND MARKET SHARE

The Notice in this proceeding starts with a different definition than the AT&T precedent by suggesting that it should “evaluate an independent [local exchange company’s] point-to-point markets in which calls originate in its local exchange areas separately from its markets in which calls originate outside those areas, for the purpose of determining whether an independent [local exchange carrier] possesses market power in the provision of in-region, interstate, domestic, interLATA services.”³⁵ A market for a given product is the area within which prices tend to equality, after transportation costs.³⁶ But is there then a “point-to-point market”?

As the Commission is aware, incumbent interexchange carriers charge the same rates throughout the U.S. for interstate calls of given duration, time-of-day, and distance. There are no “point-to-point” price differences indicating the existence of separate geographic markets. Thus, there are no separate geographic markets for the relevant product, i.e., “all interstate, domestic, interexchange services,” within the national market.

³⁴ AT&T Non-Dominance Order at ¶ 26.

³⁵ Notice at ¶ 126.

³⁶ Marshall, A., *PRINCIPLES OF ECONOMICS* (variorum ed., 1961), p. 325. *See also*, Cournot, A. (1838), *RECHERCHES SUR LES PRINCIPES MATHÉMATIQUES DE LA THÉORIE DES RICHESSES*, Paris.

As defined by George Stigler: “The test of a market . . . is the similarity of price movements within the market.”³⁷ Since carriers charge the same rates for interstate calls of given duration, time-of-day, and distance, a study of price movements in different “point-to-point” locations would show identical movements for similar calls throughout the U.S. Therefore, according to Professor Stigler’s test, the market cannot be smaller than the U.S. since prices tend to equality within that area.

The Commission’s suggestion that it might “examine an area smaller than the entire nation for purposes of assessing the market power of a [local exchange company]”³⁸ has no foundation as a threshold matter in economics. This approach would focus market definition on specific firms, so that there is one market for AT&T and another for GTE operating companies. That denies the fundamental logic of the definition that the market is the set of locations within which suppliers and demanders cause price to tend to uniformity. The location of specific firms within a market is irrelevant.

Moreover, there can be point-to-point calls without a finding that a specific “point-to-point market” exists. Given the extent of national systems of three or more carriers, a hypothetical “point-to-point” market, defined as such because it realized a price premium, would vanish as an entity when entry of new service offerings from the national facilities-based carriers erased the price premium. Thus, the limited geographical extent of the demand side does not determine the market; those limits are transcended by the broader geographic scope of the supply side. Arbitrage behavior of the supply side leads to the determination of a national market for telecommunications services. The rule is that market definition is determined by the larger area of the two sides. Should the Commission chose to analyze regional or “point-to-point” exchange patterns despite the

³⁷ Stigler, G. and Sherwin, R. (1985), *The Extent of the Market*, JOURNAL OF LAW AND ECONOMICS, vol. 28, pp. 555-585, at 557.

³⁸ Notice at ¶ 125.

non-existence of any relevant markets, it would, in the words of George Stigler, be “draw[ing] demand and supply curves that do not represent the traders in the market, [so that] the intersection of the curves is economically meaningless.”³⁹

C. THE COMMISSION’S AT&T CASE CRITERIA FOR THE DETERMINATION OF NON-DOMINANCE

With respect to the Commission’s first criterion, i.e., market share, AT&T’s share had fallen steadily from approximately 90 percent in 1984 to 55 percent of revenues and 58 percent of message minutes by 1994; and the Commission concluded that such shares did not indicate the existence of market power, finding that market share “is not the sole determining factor of whether a firm possesses market power.”⁴⁰ The Commission further noted that AT&T faced at least two facilities-based competitors (i.e., MCI and Sprint), which maintained nationwide networks offering service to business and residential customers, while a third facilities-based carrier (i.e., WorldCom) offered nationwide service to business customers and had the potential to offer that service to residential customers. Moreover, noted the Commission, there were dozens of regional facilities-based carriers and hundreds of resellers; while none covered the market, together by reselling they provided more access to those systems of the larger carriers. Based on this, the Commission concluded: “We believe that the significant excess capacity and the large number of long-distance carriers limits any exercise of market power by AT&T.”⁴¹

With respect to supply elasticity, the Commission examined empirical evidence on the ability of rival carriers to absorb demand from AT&T’s customers if or when AT&T

³⁹ Stigler, G. and Sherwin, R. (1985), *The Extent of the Market*, JOURNAL OF LAW AND ECONOMICS, vol. 28, pp. 555-585, at 555.

⁴⁰ AT&T Non-Dominance Order at ¶ 68.

⁴¹ *Id.* at ¶ 70.

unilaterally restricted supply. The Commission found “that MCI and Sprint alone can absorb overnight as much as fifteen percent of AT&T’s total 1993 switched demand at no incremental capacity cost; that within 90 days MCI, Sprint, and [WorldCom], using their existing equipment, could absorb almost one-third of AT&T’s total switched capacity; or that within twelve months, AT&T’s largest competitors could absorb almost two-thirds of AT&T’s total switched traffic for a combined investment of \$660 million.”⁴² The Commission concluded that “AT&T’s competitors have sufficient excess capacity available to constrain AT&T’s pricing behavior.”⁴³

On measures of the demand elasticity that AT&T encountered in the market, the Commission found that residential customers are “highly demand-elastic and will switch to or from AT&T in order to obtain price reductions and desired features.”⁴⁴ The Commission specifically focused on AT&T’s “churn,” i.e., the rate at which AT&T’s residential customers changed interexchange carriers. In addition, the Commission found that AT&T’s business customers also were highly demand-elastic.

With respect to AT&T’s cost structure, size, and resources, the Commission concluded that its “lower costs, sheer size, superior resources, financial strength, and technical capabilities [did not] by themselves confer market power on AT&T.”⁴⁵ The existence of incumbent advantages was not the issue, but rather whether those advantages resulted in market power. In particular, the Commission found that AT&T’s ability to obtain volume and term discounts from competitive access providers and local exchange companies did not constitute evidence that it could sustain prices above the competitive

⁴² *Id.* at ¶ 59.

⁴³ *Id.*

⁴⁴ *Id.* at ¶ 63.

⁴⁵ *Id.* at ¶ 73.

level. Therefore, the Commission concluded, “we do not find that AT&T’s size or cost structure constitutes evidence of market power.”⁴⁶

These four explicit criteria all point in the direction of an assessment of AT&T’s competitive behavior. But they do not go to AT&T’s pricing strategies – the core of competitiveness in behavior. Indeed, the Commission alluded to long-distance carriers’ price behavior: “the record demonstrates that, since 1991, [AT&T’s] basic schedule rates for domestic residential service have risen approximately sixteen percent (in nominal terms), with much of the increase occurring since January 1, 1994. Moreover, each time AT&T has increased its basic rate, MCI and Sprint have quickly thereafter matched the increase.”⁴⁷ Given its knowledge from the tariffs of AT&T’s price changes and of AT&T’s access cost changes, as well as its finding that AT&T is non-dominant, the conclusion has to be that the Commission accepts AT&T’s price and sales strategies in the mid-1990s as non-dominant.

What were these strategies? They can be assessed by an examination of how AT&T set prices in relation to its marginal costs.⁴⁸ The greater the amount by which a firm’s price exceeds its marginal cost, the greater is its price-setting ability and hence its

⁴⁶ *Id.*

⁴⁷ *Id.* at ¶¶ 75-87.

⁴⁸ A firm’s marginal cost equals the change in total cost that occurs when output changes by a small amount. *See, e.g.,* Carlton, D. and Perloff, J. (1993), *MODERN INDUSTRIAL ORGANIZATION*, New York, NY: Harper Collins, at 51-52.

market power.⁴⁹ Thus, a standard measure of a firm's market power is the price-cost margin, which equals $(\text{price} - \text{marginal cost}) / (\text{price})$.⁵⁰

AT&T's price-cost margins for standard message toll service were slightly variant with respect to MCI and Sprint's margins in the 1980s.⁵¹ Margins increased and converged for the three firms in the 1990s – a reflection of the underlying increased similarity not only in access charges but also in the firms' standard tariff prices. Market concentration, as measured by the HHI, decreased from a level of 0.76 in 1985 (indicating the equivalent of 1.3 equal-sized firms) to 0.54 in 1993 (indicating the equivalent of 1.9 equal-sized firms). Those changes over time produced an inverse relation between profit

⁴⁹ See, e.g., Lerner, A. (1934), *The Concept of Monopoly and the Measurement of Monopoly Power*, REVIEW OF ECONOMIC STUDIES, vol. 1, pp. 157-175; Viscusi, W., Vernon, J., and Harrington, J. (1992), *ECONOMICS OF REGULATION AND ANTITRUST*, Lexington, MA: D.C. Heath and Company, pp. 257-258.

⁵⁰ See, e.g., Carlton, D. and Perloff, J. (1994), *MODERN INDUSTRIAL ORGANIZATION*, New York, NY: Harper Collins, pp. 341-342. The price-cost margin (or Lerner Index) for a market equals [(Herfindahl-Hirschman Index of market concentration) $(1 + \text{conjectural variation})$] divided by the elasticity of demand (in absolute value). Thus, the higher is market concentration and firms' cooperative responses in establishing price and sales levels (i.e., their conjectural variation), the higher is the industry price-cost margin. Also, the lower is industry demand elasticity, the higher is the price-cost margin. See Martin, S. (1993), *ADVANCED INDUSTRIAL ECONOMICS*, Oxford, UK: Blackwell, p. 167.

The Herfindahl-Hirschman Index ("HHI") equals the sum of the squared shares of firm sales, with shares in decimal terms. That index enables one to make comparisons of concentration between that for an "equivalent" number of equal-sized firms and that observed in a market when shares are not in fact equal. The HHI ranges from one to zero, with one indicating that a single firm makes all the sales and zero indicating that an infinite number of firms is present. See also, Waterson, M. (1984), *ECONOMIC THEORY OF THE INDUSTRY*, Cambridge, UK: Cambridge University Press, p. 20; Tirole, J. (1988), *THE THEORY OF INDUSTRIAL ORGANIZATION*, Cambridge, MA: MIT Press, chapter five; Sutton, J. (1991), *SUNK COSTS AND MARKET STRUCTURE*, Cambridge, MA: MIT Press, chapter one.

⁵¹ MacAvoy, P. (1996), *THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES* (AEI Press and MIT Press), at 117.

margins and the HHI. Price-cost margins increased as concentration declined. AT&T's price-cost margin for standard MTS at the time of the Commission's non-dominance decision is shown in Table One. As shown, the Commission reclassified AT&T given that that carrier's prices exceeded its marginal costs as a percentage of price by 66 percent for standard MTS.

TABLE ONE
PRICE-COST MARGINS OF AT&T BY SERVICE CATEGORY
(END OF YEAR 1995)

Service Category	(Price- Marginal Cost) / Price
MTS	0.66
WATS Inbound	
Switched	0.73
Dedicated	0.76
WATS Outbound	
Switched	0.74
Dedicated	0.79
<p>Sources:</p> <p>Prices are calculated from AT&T tariffs by HTL Telemanagement, Ltd. Calls are assumed to be made according to the following time-of-day distribution: 85 percent day, ten percent evening, and five percent night/weekend. The following mileage distribution is assumed: six percent of calls 0-55 miles, eight percent of calls 56-292 miles, six percent of calls 293-430 miles, thirty percent of calls 431-925 miles, thirty-three percent of calls 926-1,910 miles, and seventeen percent of calls 1,911 to 3,000 miles. The duration of calls is assumed to be five minutes.</p> <p>Marginal costs are calculated from FCC Monitoring Report (1996), Table 35 and the Direct Testimony of John Sumpter on Behalf of AT&T Communications of California, Inc., Application of AT&T Communications of California, Inc. (U 5002 C) for authority to Provide Intrastate AT&T 800 READYLINE Service, June 18, 1990.</p>	

For wide-area telecommunications services (“WATS”) switched inbound access, margins differed among the three firms from 1982 to 1989.⁵² AT&T’s price-cost margins were consistently higher than those of MCI and Sprint. But as the two smaller carriers established inbound service comparable to that of AT&T, and as they began to pay the same access charges, their margin levels became more similar until in 1993 they had become virtually identical. As margins converged, they increased to 70 percent of prices. Because of AT&T’s monopoly in that service at the time of divestiture, the HHI for inbound WATS was 1.0 in 1986 but decreased rapidly to 0.55 in 1990, after which it stabilized at 0.53 by 1993. Thus, inbound WATS pricing margins increased to high levels as concentration declined significantly. Table One shows that as of year-end 1995, AT&T’s price-cost margin for WATS switched inbound was 0.73, and its margin for dedicated service was 0.76.

For outbound WATS with switched access, the price-cost margins of AT&T, MCI, and Sprint followed a path of steady increases during the late 1980s and early 1990s – from 55 percent to 60 percent initially and to 75 percent in 1994.⁵³ Margins of the three suppliers converged following the establishment of uniformity in prices. Concentration in shares, as indicated by the HHI, declined rapidly from 1985 to 1988 from a level of 0.75 to 0.42 and thereafter stabilized at 0.30, the equivalent of three-and-one-third equal-sized firms. Again, as for inbound WATS, margins rose to high levels as the three large service providers moved toward much more equal shares of revenues. As shown in Table One,

⁵² MacAvoy, P. (1996), *THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES* (AEI Press and MIT Press), at 117.

⁵³ MacAvoy, P. (1996), *THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES* (AEI Press and MIT Press), at 119.

AT&T's price-cost margin for WATS switched outbound was 0.74, and its margin for dedicated service was 0.79.

In addition to standard MTS, the major facilities-based carriers also offer discount plans, such as AT&T's "Reach Out America" and MCI's "Friends & Family." AT&T's price-cost margins on its Reach Out America plan were approximately 97 percent of those on its standard MTS plan.⁵⁴ MCI's profit margins for its Prime Time Day and Friends & Family I plans averaged approximately 95 percent of those from offerings under its standard MTS plan.⁵⁵ And Sprint's margins earned on its Sprint Plus and Sprint Select discount plans averaged approximately 90 percent of its standard MTS plan.⁵⁶ Price-cost margins earned by AT&T, MCI, and Sprint on those discount MTS calling plans increased from 1987 to 1994, even though that period was marked by a substantial decline in market concentration.

That pattern of profit margins, on both standard and discount plans, in the presence of falling market concentration "may have occurred for a variety of reasons."⁵⁷ Indeed, there are at least four reasons why long-distance carriers would offer discounts: (1) to pass on cost savings, (2) to "cheat" on tacitly collusive prices, (3) to provide lower prices specifically to more price-sensitive customers, and (4) to discipline resellers so as to limit their share of markets for MTS services.

⁵⁴ MacAvoy, P. (1996), *THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES* (AEI Press and MIT Press), at 130.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ Affidavit of B. Douglas Bernheim and Robert D. Willig, *An Analysis of the MFJ Line of Business Restrictions*, *United States v. Western Elec. Co., Inc. and American Tel. & Tel. Co.*, Civil Action No. 82-0192 (Dec. 1, 1994).

The first two reasons are scarcely credible. If discount plans passed on cost savings, margins would be the same on standard and discount plans, but they are lower on discount plans. Margins generated by AT&T, MCI, and Sprint for discount services show the same rising trend as for standard MTS service, so that the hypothesis that the discounts were manifestations of “cheating” on tacitly collusive prices would make sense only if “cheating” were being reduced over time. The two remaining explanations for discounts are that prices became discriminatory in favor of more price-sensitive customers or that discounts were an attempt to prevent resellers from capturing MTS market share. The evidence on rising margins does not favor one or the other of those two explanations. My conclusion is that competition for the provision of MTS service did not become more competitive in the 1990s with the introduction of discount calling plans. In sum, an examination of the evidence on AT&T’s price and sales strategies in the mid-1990s shows that the Commission accepted in its non-dominance decision the existence of that company’s non-competitive price-cost margins, based the pricing strategies of this carrier with respect to MCI and Sprint’s strategies.

D. APPLICATION OF THE COMMISSION’S CRITERIA TO THE DETERMINATION AS TO WHETHER GTE SHOULD BE CLASSIFIED AS A DOMINANT CARRIER

The Commission’s decision criteria, utilized to determine AT&T’s non-dominant status, should be used here to determine whether GTE should be so classified as well. At the time it was declared non-dominant by the Commission, AT&T’s revenue share in the Commission-defined market was 55 percent and exceeded that of the next largest carrier (MCI) by more than three times. The Commission’s STATISTICS OF COMMUNICATIONS COMMON CARRIERS shows that GTE Long Distance’s share of total toll service revenues

in that same defined market is currently less than 0.15 percent.⁵⁸ Based on the Commission's 55 percent market share criterion, GTE Long Distance must be considered at the threshold of entry a non-dominant carrier. Only a nearly 400 fold increase in share would make GTE Long Distance's market presence after entry larger than AT&T's current share. No conceivable scenario associated with hypothetical leveraging leads to a predictions of a share almost 400 times larger than its current share. Indeed, this level of increase would imply that the GTE Long Distance had more than 100 percent of long-distance service provision in in-region service territories.

The market share tests also should be extended to include a realistic appraisal of GTE Long Distance's share after a period of entry into long distance where it now offers local exchange service. Survey studies in California indicate that the Bell local exchange companies are likely to achieve *in-region* long-distance shares of approximately 30 percent, assuming they are allowed to offer long-distance service at the same time current interexchange companies offer local service.⁵⁹ There are no corresponding studies for GTE Long Distance, but assuming that its shares of in-region revenues would also approximate thirty percent, then in the relevant national market GTE Long Distance would increase its share to approximately four percent.⁶⁰ There is no likely scenario that

⁵⁸ FCC, STATISTICS OF COMMUNICATIONS COMMON CARRIERS, 1994/1995 edition. GTE revenues for total toll service place it in the "other" category of carriers, and the smallest reported share for a firm is 0.15 percent, so that GTE's share cannot exceed that value.

⁵⁹ See, e.g., Declaration of Paul W. MacAvoy Before the Public Utilities Commission of the State of California, In the Matter of Alternative Regulatory Framework for Local Exchange Carriers, Docket No. I. 87-11-033.

⁶⁰ That is, GTE maintained 17,442,000 lines as of December 31, 1994, and the total number of presubscribed lines in the U.S. was 147,348,321 as of that date. (1994 FINANCIAL STATISTICS SUPPLEMENT TO GTE ANNUAL REPORT TO SHAREHOLDERS at 21, and FCC STATISTICS OF COMMUNICATIONS COMMON CARRIERS, 1994/1995 Edition, Table 2.3, respectively.) Thus, GTE's share of total U.S. lines was approximately 11.8 percent, so that its possible U.S. market share for long-distance equals approximately 3.6 percent, i.e., 11.8 percent multiplied by 30 percent.

would cause GTE Long Distance's future long-distance market share to approach the 55 percent criterion used by the Commission in its determination that AT&T was non-dominant.

Further indication as to whether GTE Long Distance will gain large in-region, long-distance shares comes from an analysis of its customers' calling patterns. Table Two shows where interstate long-distance calls originating in selected GTE operating company service areas terminate. (For example, 10.7 percent of interstate long-distance calls originating in GTE California's service area terminate on some GTE operating company local exchange system.) The table indicates that the majority of interstate calls that originate in the service areas of the GTE operating companies terminate on non-GTE local exchange systems.

TABLE TWO
THE DISTRIBUTION OF CALL TERMINATION LOCATIONS FOR
INTERSTATE CALLS ORIGINATING IN MAJOR GTE SERVICE AREAS

Calls Terminating	Calls Originating in:					
	GTE California	GTE Florida	GTE Illinois	GTE Pennsylvania	GTE Southwest (Texas)	GTE Northwest (Washington)
Ameritech	13.0	19.5	18.2	16.4	11.0	6.9
Bell Atlantic	11.4	18.8	5.3	29.8	8.6	5.7
Bell South	11.6	16.4	12.9	13.3	21.3	6.4
NYNEX	12.2	18.8	3.0	14.8	5.7	4.8
Pacific Telesis	1.2	4.4	4.8	4.3	9.6	23.3
Southwestern Bell	12.0	6.4	15.3	5.1	15.8	6.8
US West	28.0	6.3	14.7	6.3	13.7	29.5
GTE/Contel	10.7	9.4	25.9	10.0	14.4	16.6
Notes: Shares based on total interstate originating minutes of use (April 1993). Source: GTE, Carrier Analysis Billing System, Interstate Terminating Point Summary.						

Given this condition, GTE Long Distance's ability to take away long-distance share from existing interexchange carriers is limited. The calls that both originate and terminate on a GTE operating company's local exchange system, or for which GTE operating companies provide all the local service, are from subscribers most closely aligned with GTE's service offerings. Calls for which GTE operating companies provide origination-only service are with subscribers with which GTE has a more tenuous link, given that non-GTE carriers that complete GTE-initiated calls have access to these customers and can provide alternative service. GTE Long Distance either would have to undertake substantial capital investments to operate as a facilities-based complete carrier for those calls or act as a reseller. Of course, as the Commission previously has recognized, the ability of resellers to exert market power is problematic.⁶¹

The ability to own and control facilities enables a carrier to manage competition by resellers. A reseller has minimal pricing flexibility when it must rely on a competitor that also supplies the infrastructure and underlying basic services which a reseller must use to provide its own services. In addition, the reseller cannot guarantee the quality of its services because the underlying facilities necessary to provide service are not within its control.

This applies not only to in-region originated calls but to out-of-region GTE Long Distance expansion. If GTE Long Distance expanded out-of-region on a resale basis in order to complete more calls, and increased its national market share, there is no expectation, according to the Commission's statement, that it would be able to act as a dominant firm in the national market from that larger share.

⁶¹ See *Notice of Proposed Rulemaking in the Matter of Market Entry and Regulation of Foreign-Affiliated Entities*, IB Docket No. 95-22, p. 30.

Customers' calling options are conceivably more limited on intrastate long distance. And although point-to-point services in intrastate long distance do not make up markets, it is interesting to consider the current alternatives available to GTE subscribers. Table Three shows the terminating local exchange carriers for intrastate, interLATA calls originating on GTE operating companies in California, Florida, and Texas (GTE's three largest states by revenue). For example, of all intrastate, interLATA calls originating on GTE operating companies in California, twenty percent terminate on GTE operating companies in that state. The terminating shares for GTE operating companies are lower in Florida and Texas. With such shares, even in a narrowly misdefined market, GTE Long Distance could not exercise market power because intrastate calls that originate on GTE operating companies almost always terminate on local exchange systems of other companies that can offer the same service.